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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/573,997	Applicant(s) HWANG ET AL.	
	Examiner LaTanya Bibbins	Art Unit 2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 December 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 March 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. In the remarks filed on December 2, 2008, Applicant amended claims 1, 4, 8, 11, 15, 18, 22 and 25, cancelled claims 29 and 30, and submitted arguments for allowability of pending claims 1-28.

Response to Arguments

2. Applicant's arguments with respect to claims 1-28 have been considered but are moot in view of the new grounds of rejection.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 1-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Park et al. (US Patent Number 7,289,404 B2), herein, Park '404, in view of Park (US Patent Number 7,342,858 B2), herein Park '858.**

Regarding claim 1, Park '404 discloses a method of using a write-once disc comprising at least one recording layer, the method comprising: allocating at least one spare area to a data area of the at least one recording layer (see the inner and outer spare areas (ISA and OSA) of Figures 4-7); and dividing the at least one spare area into

Art Unit: 2627

a sub spare area and a temporary disc management area (see the replacement areas (R/A) and the TDMA's of Figures 4-7), wherein the size of the temporary disc management area is greater than or equal to $1/N$ (where N is a real number) of the size of the spare area (see the discussion in column 5 lines 28-37 and column 7 lines 11-26).

Park '404 fails to specifically disclose, while Park '858 discloses extending the sub spare area toward a user data area of the data area if a size of the sub spare area is to be increased (see Figure 5 and the discussion in column 3 lines 16-26).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Park '858 into that of Park '404. One of ordinary skill in the art at the time the invention was made would have been motivated to combine the teachings in order to easily enlarge the supplementary spare area as necessary (as suggested by Park '858 in column 3 lines 22-26).

Regarding claim 2, Park '404 further discloses wherein the size of the temporary disc management area is less than or equal to $1/N$ of the maximum size allocable to the spare area (see the discussion in column 5 lines 28-37 and column 7 lines 11-26).

Regarding claim 3, Park '404 further discloses extending the sub spare area so that the sum of the sizes of the extended sub spare area and the temporary disc management area is less than or equal to N times the size of the temporary disc management area (see the discussion in column 5 lines 28-37 and column 7 lines 11-26).

Regarding claim 4, Park '404 further discloses reducing the sub spare area in a direction in which the user data is recorded if a size for the user data area is to be increased (see Figures 4 and 5 and the discussion in column 5 lines 28-64).

Regarding claim 5, Park '404 further discloses wherein each spare area is an area in which the user data is re-recorded, or updated file system information is recorded when the user data recorded in a user data area has a defect (see the discussion in column 5 lines 14-16).

Regarding claim 6, Park '404 further discloses wherein the temporary disc management area is an area used to record information on temporary defect management and temporary disk management, including a temporary disc definition structure indicating defective positions (column 8 line 64 – column 9 line 9).

Regarding claim 7, Park '404 further discloses wherein N is 4 (see the discussion in column 5 lines 28-37 and column 7 lines 11-26).

Regarding claim 8, Park '404 discloses a data recording and/or reproducing apparatus comprising: a recording and/or reading unit which records data on and/or reads data from a write-once disc comprising at least one recording layer (Figure 3 element 22 and the discussion in column 4 lines 26-29); and a controller (Figure 3 element 26 and the discussion in column 4 lines 26-51) which allocates at least one spare area to a data area of the at least one recording layer, divides the at least one spare area into a sub spare area and a temporary disc management area, and controls the recording and/or reading unit to record information on position and/or size of each spare area (see the inner and outer spare areas (ISA and OSA), the replacement areas

Art Unit: 2627

(R/A), and the TDMA's of Figures 4-7) and information on position and/or size of the sub spare area and the temporary disc management area on the write-once disc (column 9 lines 18-40), wherein the size of the temporary disc management area is greater than or equal to $1/N$ of the size of one spare area (see the discussion in column 5 lines 28-37 and column 7 lines 11-26).

Park '404 fails to specifically disclose, while Park '858 discloses wherein the controller extends the sub spare area toward a user data area of the data area if a size of the sub spare area is to be increased (see Figure 5 and the discussion in column 3 lines 16-26).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Park '858 into that of Park '404. One of ordinary skill in the art at the time the invention was made would have been motivated to combine the teachings in order to easily enlarge the supplementary spare area as necessary (as suggested by Park '858 in column 3 lines 22-26).

Regarding claim 9, Park '404 further discloses wherein the controller determines the size of the temporary disc management area to be less than or equal to $1/N$ of the maximum size allocable to one spare area (see the discussion in column 4 lines 26-51 and column 5 lines 28-37 and column 7 lines 11-26).

Regarding claim 10, Park '404 further discloses wherein the controller extends the sub spare area so that the sum of the sizes of the extended sub spare area and the temporary disc management area is less than or equal to N times the size of the temporary disc management area (see the discussion in column 4 lines 26-51 and

Art Unit: 2627

column 5 lines 28-64 and column 7 lines 11-26), and controls the recording and/or reading unit to record information on the size of the extended sub spare area on the write-once disc (column 9 lines 18-40).

Regarding claim 11, Park '404 further discloses wherein the controller reduces the sub spare area in a direction in which the user data is recorded if a size of the user data area is to be increased (see Figures 4 and 5 and the discussion in column 5 lines 28-64), and controls the recording and/or reading unit to record information on the size of the reduced sub spare area on the write-once disc (see the discussion in column 9 lines 18-40).

Regarding claim 12, Park '404 further discloses wherein each spare area is an area in which the user data is re-recorded or updated file system information is recorded when the user data recorded in a user data area has a defect (see the discussion in column 5 lines 14-16).

Regarding claim 13, Park '404 further discloses wherein the temporary disc management area is an area in which a temporary disc definition structure is recorded (column 8 line 64 – column 9 line 9).

Regarding claim 14, Park '404 further discloses wherein N is 4 (see the discussion in column 5 lines 28-37 and column 7 lines 11-26).

Regarding claim 15, Park '404 discloses a single recording layer write-once disc on which user data is recorded from the inside out, comprising: a recording layer which comprises a data area (see Figures 4 and 5), wherein the data area comprises a spare area which is allocated to an area ranging from a predetermined position of the data

Art Unit: 2627

area to the last position of the data area (see the outer spare areas (OSA) of Figures 4 and 5 and the discussion in column 6 lines 26-29) and which is divided into a sub spare area and a temporary disc management area from the inside out (see the replacement areas (R/A) and the TDMA's of Figures 4 and 5), and wherein the size of the temporary disc management area is greater than or equal to $1/N$ (N is a real number) of the size of the spare area (see the discussion in column 5 lines 28-37 and column 7 lines 11-26).

Park '404 fails to specifically disclose, while Park '858 discloses wherein the sub spare area is an area which is extended toward a user data area within the data area if a size of the sub spare area is to be increased (see Figure 5 and the discussion in column 3 lines 16-26).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Park '858 into that of Park '404. One of ordinary skill in the art at the time the invention was made would have been motivated to combine the teachings in order to easily enlarge the supplementary spare area as necessary (as suggested by Park '858 in column 3 lines 22-26).

Regarding claim 16, Park '404 discloses wherein the size of the temporary disc management area is less than or equal to $1/N$ of the maximum size allocable to the spare area (see the discussion in column 5 lines 28-37).

Regarding claim 17, Park '404 discloses wherein the sub spare area is an area which is extended inward so that the sum of the sizes of the extended sub spare area and the temporary disc management area is less than or equal to N times the size of the temporary disc management (see the discussion in column 5 lines 28-37).

Regarding claim 18, Park '404 discloses the single recording layer write-once disc as claimed in claim 15, wherein the sub spare area is an area which is reduced outward if a size of the user data area is to be increased (see Figures 4 and 5 and the discussion in column 5 lines 28-64).

Regarding claim 19, Park '404 discloses wherein the spare area is an area in which the user data is re-recorded, or updated file system information is recorded when the user data recorded in a user data area has a defect (see the discussion in column 5 lines 14-16).

Regarding claim 20, Park '404 discloses wherein the temporary disc management area is an area in which a temporary disc definition structure is recorded (column 8 line 64 – column 9 line 9).

Regarding claim 21, Park '404 discloses wherein N is 4 (see the discussion in column 5 lines 28-37).

Regarding claim 22, Park '404 discloses a dual recording layer write-once disc comprising: a first recording layer on which user data is recorded using an opposite track path method (see Figures 6 and 7 and the discussion in column 6 lines 44-53 and column 7 lines 4-8); and a second recording layer which comprises a data area (see Figures 6 and 7 and the discussion in column 6 lines 44-53 and column 7 lines 4-8); wherein an area ranging from a predetermined position of the data area to the last position of the data area is allocated as a spare area which is divided into a sub spare area and a temporary disc management area from the outside in (see the outer spare areas (OSA), replacement areas (R/A), and TDMA's of Figures 6 and 7 and the

Art Unit: 2627

discussion in column 8 lines 9-18) and wherein the size of the temporary disc management area is greater than or equal to $1/N$ (N is a real number) of the size of the spare area (see the discussion in column 7 lines 11-26).

Park '404 fails to specifically disclose, while Park '858 discloses wherein the sub spare area is an area which is extended toward a user data area within the data area if a size of the sub spare area is to be increased (see Figure 5 and the discussion in column 3 lines 16-26).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Park '858 into that of Park '404. One of ordinary skill in the art at the time the invention was made would have been motivated to combine the teachings in order to easily enlarge the supplementary spare area as necessary (as suggested by Park '858 in column 3 lines 22-26).

Regarding claim 23, Park '404 discloses wherein the size of the temporary disc management area is less than or equal to $1/N$ of the maximum size allocable to the spare area (see the discussion in column 7 lines 11-26).

Regarding claim 24, Park '404 discloses wherein the sub spare area is an area which is extended outward so that the sum of the sizes of the extended sub spare area and the temporary disc management area is less than or equal to N times the size of the temporary disc management area (see the discussion in column 5 lines 39-64 and column 7 lines 11-26).

Regarding claim 25, Park '404 discloses wherein the sub spare area is an area which is reduced inward if a size of the user data area is to be increased (see Figures 6 and 7 and the discussion in column 5 lines 39-64 and column 7 lines 11-26).

Regarding claim 26, Park '404 discloses wherein the spare area is an area in which the user data is re-recorded, or updated file system information is recorded when the user data recorded in a user data area has a defect (see the discussion in column 5 lines 14-16).

Regarding claim 27, Park '404 discloses wherein the temporary disc management area is an area in which a temporary disc definition structure is recorded (column 8 line 64 – column 9 line 9).

Regarding claim 28, Park '404 discloses wherein N is 4 (see the discussion in column 7 lines 11-26).

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the

Art Unit: 2627

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LaTanya Bibbins whose telephone number is (571)270-1125. The examiner can normally be reached on Monday through Friday 7:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on 571 272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/LaTanya Bibbins/

Application/Control Number: 10/573,997

Page 12

Art Unit: 2627

Examiner, Art Unit 2627

/Wayne Young/

Supervisory Patent Examiner, Art Unit 2627